Operator Training

Electronic Line Leak Detector

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health
and Environmental Control

Pressurized Lines

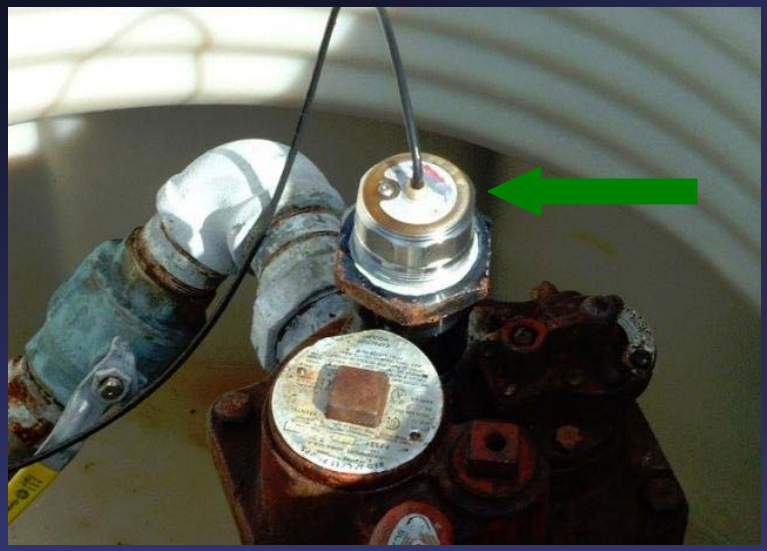
Release detection regulations for piping state that there must be a method to look for the “big” leak (3.0 gallons per hour continuously) as well as the “little” leak (either 0.2 gallons per hour monthly or 0.1 gallons per hour yearly). An electronic line leak detector can satisfy the requirement for the big leak as well as the little leak depending on what type is installed. You will have to determine if your electronic line leak detector does both or if you have additional method of line leak detection.

Pressurized Lines

There are several ways to look for the big leak as well as the little leak:

- Big Leak = 3.0 gallons per hour continuously
  - Mechanical Line Leak Detector (LLD)
  - Electronic Line Leak Detector (ELD)
- Little Leak = 0.2 gallons per hour monthly or 0.1 gallons per hour annually
  - Monthly Statistical Inventory Reconciliation (0.2 gph monthly)
  - Monthly Interstitial Monitoring (0.2 gph monthly)
  - Monthly monitoring with an Electronic Line Leak Detector (0.2 gph or 0.1 gph)
  - Annual Line Tightness Test (0.1 gph yearly)

Electronic Line Leak Detectors

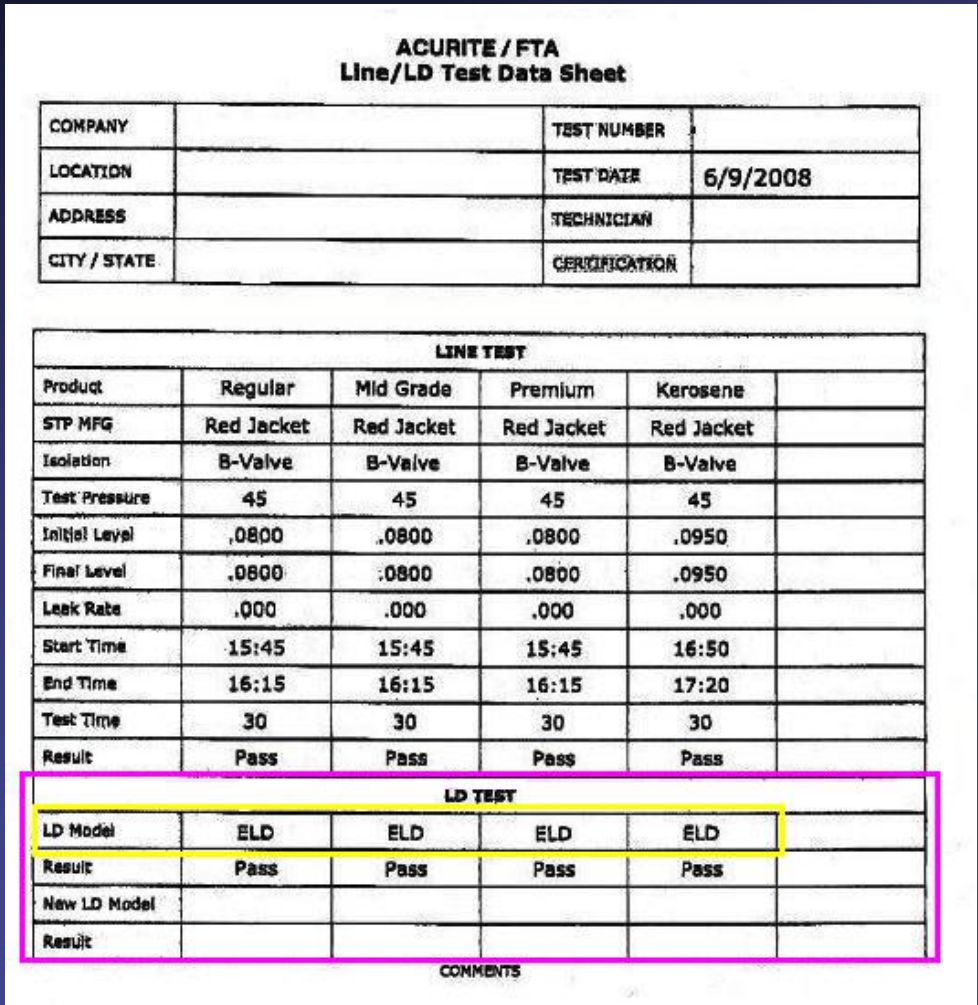


An electronic line leak detector is typically located on the submersible turbine pump head in a sump or pit above the tank.

Electronic Line Leak Detectors

Electronic line leak detectors connect to an electronic control panel and/or Automatic Tank Gauge. When the submersible turbine pump is not running (no one is pumping fuel), the electronic line leak detector uses the submersible turbine pump to pressurize the line and then monitor how long it takes for the pressure to fall off. If a big leak (3.0 gallons per hour) is found, the electronic line leak detector must shut off the flow of fuel, restrict the flow of fuel or trigger an alarm.

Function Check



ACURITE / FTA
Line/LD Test Data Sheet

COMPANY		TEST NUMBER	
LOCATION		TEST DATE	6/9/2008
ADDRESS		TECHNICIAN	
CITY / STATE		CERTIFICATION	

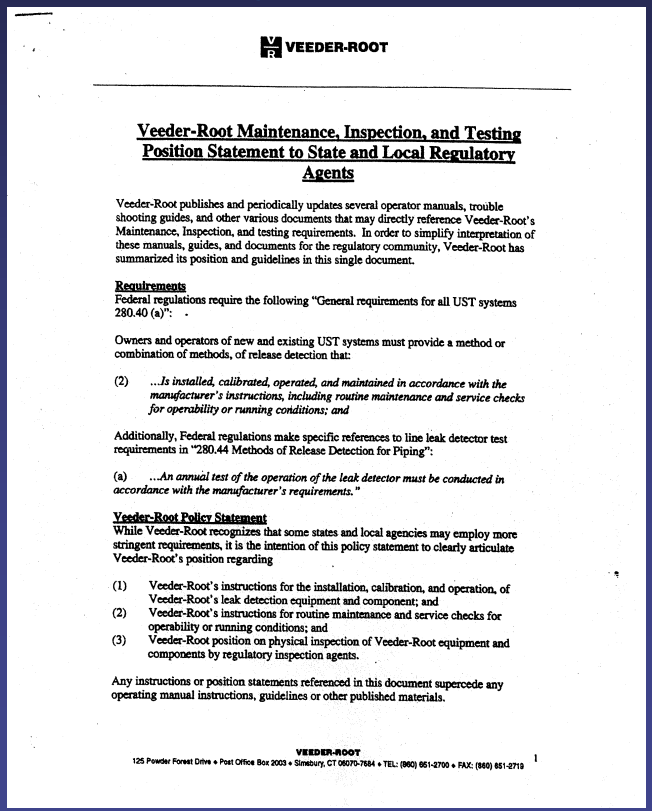
LINE TEST					
Product	Regular	Mid Grade	Premium	Kerosene	
STP MFG	Red Jacket	Red Jacket	Red Jacket	Red Jacket	
Isolation	B-Valve	B-Valve	B-Valve	B-Valve	
Test Pressure	45	45	45	45	
Initial Level	.0800	.0800	.0800	.0950	
Final Level	.0800	.0800	.0800	.0950	
Leak Rate	.000	.000	.000	.000	
Start Time	15:45	15:45	15:45	16:50	
End Time	16:15	16:15	16:15	17:20	
Test Time	30	30	30	30	
Result	Pass	Pass	Pass	Pass	
LD TEST					
LD Model	ELD	ELD	ELD	ELD	
Result	Pass	Pass	Pass	Pass	
New LD Model					
Result					

COMMENTS

The manufacturers of some electronic line leak detectors require that a third-party leak detector function check be performed every 365 days. That means if the check was performed on September 1, 2009, the next check is due on or before September 1, 2010. Keep the results of this check with other release detection records for at least one year or until the next function check is performed.

Position Statement

Other electronic line leak detectors do not require a function check because they have a position statement from the manufacturer that says the leak detector is self testing. This position statement must be kept with other release detection records as long as that particular electronic line leak detector is being used.



VEEDER-ROOT

Veeder-Root Maintenance, Inspection, and Testing Position Statement to State and Local Regulatory Agents

Veeder-Root publishes and periodically updates several operator manuals, trouble shooting guides, and other various documents that may directly reference Veeder-Root's Maintenance, Inspection, and testing requirements. In order to simplify interpretation of these manuals, guides, and documents for the regulatory community, Veeder-Root has summarized its position and guidelines in this single document.

Requirements
Federal regulations require the following "General requirements for all UST systems 280.40 (a)":

Owners and operators of new and existing UST systems must provide a method or combination of methods, of release detection that:

(2) *...Is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running conditions; and*

Additionally, Federal regulations make specific references to line leak detector test requirements in "280.44 Methods of Release Detection for Piping":

(a) *...An annual test of the operation of the leak detector must be conducted in accordance with the manufacturer's requirements."*

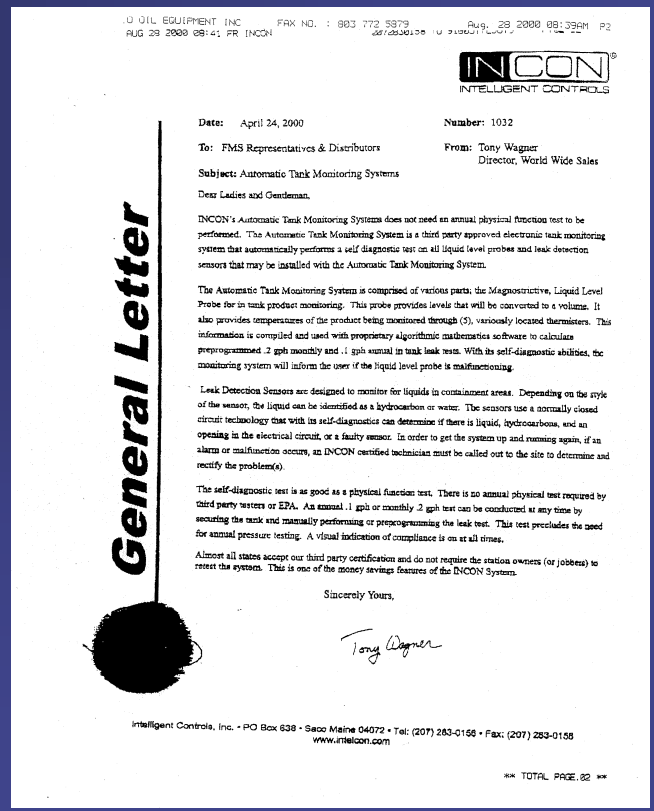
Veeder-Root Policy Statement
While Veeder-Root recognizes that some states and local agencies may employ more stringent requirements, it is the intention of this policy statement to clearly articulate Veeder-Root's position regarding

(1) Veeder-Root's instructions for the installation, calibration, and operation, of Veeder-Root's leak detection equipment and component; and
(2) Veeder-Root's instructions for routine maintenance and service checks for operability or running conditions; and
(3) Veeder-Root position on physical inspection of Veeder-Root equipment and components by regulatory inspection agents.

Any instructions or position statements referenced in this document supercede any operating manual instructions, guidelines or other published materials.

VEEDER-ROOT
125 Powder Forest Drive • Post Office Box 2003 • Simsbury, CT 06070-7684 • TEL: (860) 651-2700 • FAX: (860) 651-2719

1



...O OIL EQUIPMENT INC FAX NO. : 803 772 5979 Aug. 29 2000 08:39AM P2
AUG 29 2000 08:41 FR INCON

INCON
INTELLIGENT CONTROLS

General Letter

Date: April 24, 2000 **Number:** 1032

To: FMS Representatives & Distributors **From:** Tony Wagner
Director, World Wide Sales

Subject: Automatic Tank Monitoring Systems

Dear Ladies and Gentleman,

INCON's Automatic Tank Monitoring Systems does not need an annual physical function test to be performed. The Automatic Tank Monitoring System is a third party approved electronic tank monitoring system that automatically performs a self diagnostic test on all liquid level probes and leak detection sensors that may be installed with the Automatic Tank Monitoring System.

The Automatic Tank Monitoring System is comprised of various parts; the Magnostrictive, Liquid Level Probe for in tank product monitoring. This probe provides levels that will be converted to a volume. It also provides temperatures of the product being monitored through (5), variously located thermisters. This information is compiled and used with proprietary algorithmic mathematics software to calculate preprogrammed .2 gph monthly and .1 gph annual in tank leak tests. With its self-diagnostic abilities, the monitoring system will inform the user if the liquid level probe is malfunctioning.

Leak Detection Sensors are designed to monitor for liquids in containment areas. Depending on the style of the sensor, the liquid can be identified as a hydrocarbon or water. The sensors use a normally closed circuit technology that with its self-diagnostics can determine if there is liquid, hydrocarbons, and an opening in the electrical circuit, or a faulty sensor. In order to get the system up and running again, if an alarm or malfunction occure, an INCON certified technician must be called out to the site to determine and rectify the problem(s).

The self-diagnostic test is as good as a physical function test. There is no annual physical test required by third party testers or EPA. An annual .1 gph or monthly .2 gph test can be conducted at any time by securing the tank and manually performing or preprogramming the leak test. This test precludes the need for annual pressure testing. A visual indication of compliance is on at all times.

Almost all states accept our third party certification and do not require the station owners (or jobbers) to retest the system. This is one of the money savings features of the INCON System.

Sincerely Yours,

Tony Wagner

Intelligent Controls, Inc. • PO Box 638 • Saco Maine 04072 • Tel: (207) 283-0158 • Fax: (207) 283-0158
www.intelcon.com

*** TOTAL PAGE.02 ***

ATG

MAY 13, 2008 10:09 AM

PRESSURE LINE LEAK TEST RESULTS

Q 1:DIESEL

3.0 GAL/HR RESULTS:

LAST TEST:
MAY 13,2008 9:43AM PASS

NUMBER OF TESTS PASSED
PREV 24 HOURS : 20
SINCE MIDNIGHT : 5

0.20 GAL/HR RESULTS:

MAY	10,2008	10:54AM PASS
MAY	6,2008	10:12AM PASS
MAY	2,2008	11:54AM PASS
APR	28,2008	9:19AM PASS
APR	24,2008	12:40PM PASS
APR	20,2008	2:19PM PASS
APR	16,2008	1:07PM PASS
APR	12,2008	1:16PM PASS
APR	8,2008	10:48AM PASS
APR	4,2008	3:32PM PASS

0.10 GAL/HR RESULTS:

MAR	31,2008	6:19PM PASS
SEP	29,2007	11:13AM PASS
MAR	29,2007	2:31PM PASS
SEP	27,2006	11:31PM PASS

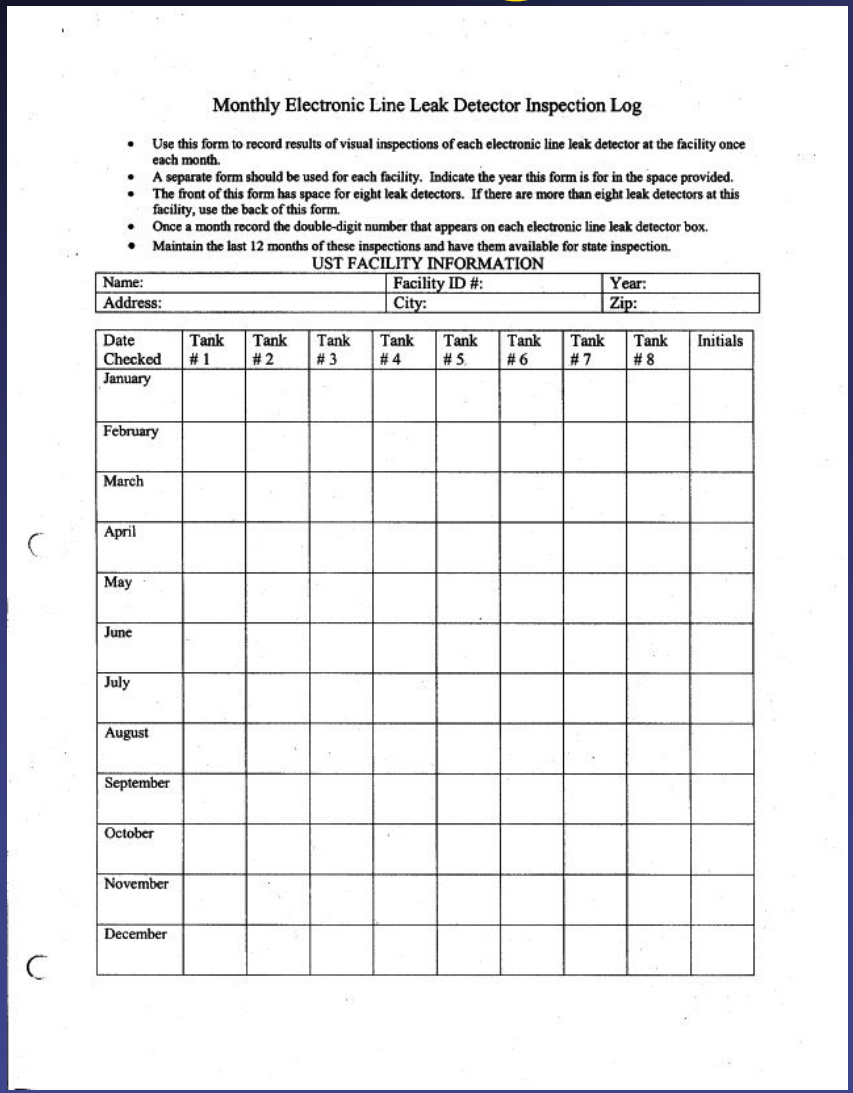
* * * * * END * * * * *

Several types of Electronic Line Leak Detectors can be connected to an Automatic Tank Gauge. These automatic tank gauges are capable of printing line leak test results for the electronic line leak detector. These Automatic Tank Gauges can be set up to make the Electronic Line Leak Detector perform a 0.2 gallon per hour test monthly or a 0.1 gallon per hour test annually. Proof of proper line leak detection would be 12 months of passing 0.2 gallon per hour Automatic Tank Gauge slips or one 0.1 gallon per hour Automatic Tank Gauge slip from within the last 12 months.

Electronic Line Leak Detectors

Other electronic line leak detectors are considered stand-alone (they do not connect to an Automatic Tank Gauge). These electronic line leak detectors (mainly INCONs) have a small display console for each electronic line leak detector. The consoles are mounted somewhere inside the facility. They have a 2-digit digital display. The number signifies the number of days since the line passed a 0.2 gallon per hour leak test. 00 means that it passed a test that day.

ELD Log



Monthly Electronic Line Leak Detector Inspection Log

- Use this form to record results of visual inspections of each electronic line leak detector at the facility once each month.
- A separate form should be used for each facility. Indicate the year this form is for in the space provided.
- The front of this form has space for eight leak detectors. If there are more than eight leak detectors at this facility, use the back of this form.
- Once a month record the double-digit number that appears on each electronic line leak detector box.
- Maintain the last 12 months of these inspections and have them available for state inspection.

UST FACILITY INFORMATION

Name:	Facility ID #:	Year:
Address:	City:	Zip:

Date Checked	Tank # 1	Tank # 2	Tank # 3	Tank # 4	Tank # 5	Tank # 6	Tank # 7	Tank # 8	Initials
January									
February									
March									
April									
May									
June									
July									
August									
September									
October									
November									
December									

Stand-alone consoles are incapable of printing out results. Some Automatic Tank Gauges are also incapable of printing out results. To prove compliance with either type of system, the owner/operator should keep a hand-written log that shows that at least one day a month the consoles or Electronic Line Leak Detectors were checked to make sure they still have a 00 or passing reading. This should be done every month, and the log should contain the twelve most recent months at all times. If the number ever gets over 30 or shows an error, report this to the Department and have someone check the electronic line leak detector immediately.